service requires access to LEC directory listings.[116] This treatment will ensure that the LECs are not able to impose undue rate increases for these services.

CONCLUSION

For the reasons stated above, the Commission should not relax LEC price cap rules in anticipation of the emergence of competition in access and local exchange markets. Rather, the Commission should assure that the preconditions for competition are effectively implemented.

Respectfully submitted,

AT&T CORP.

By /s/ Judy Sello
Mark C. Rosenblum
Peter H. Jacoby
Richard H. Rubin
Judy Sello

Room 3244J1
295 North Maple Avenue
Basking Ridge, New Jersey 07920
(908) 221-8984

Its Attorneys

December 11, 1995

[116] Directory-assistance call completion should not be combined with BNA, because BNA relies on a different database than that used for directory assistance.

APPENDIX A

APPENDIX A

AN ANALYSIS OF THE FCC'S PROPOSAL FOR STREAMLINED REGULATION OF LEC ACCESS SERVICES

by

B. Douglas Bernheim
Lewis and Virginia Eaton Professor of Economics
Stanford University

December 5, 1995

I. INTRODUCTION

The FCC's Second Further Notice of Proposed Rulemaking ("Notice") outlines a system of price cap regulation for LEC access services, and proposes procedures whereby these regulations would be streamlined in response to the progressive emergence of competition. Unfortunately, the proposal is flawed as a matter of economic logic, and therefore unlikely to further the pro-competitive objectives of the FCC. On the contrary, it provides the LECs with ample opportunities to exercise, extend, and further entrench existing monopoly power.

The most fundamental flaw in the proposal is that it treats the individual components of access as if they were separate, unrelated services. In particular, the FCC would confine its analysis of competitive intensity to the product markets for each service component, considered one at a time in isolation. This approach ignores the fact that market power over an intermediate "bottleneck" service may be exercised elsewhere in a vertical chain of complementary intermediate products. The appropriate form of regulation for any component service depends critically on the competitive characteristics of all other complementary component services, especially where one or more of these complementary components may

be a bottleneck monopoly. In this respect, the task of streamlining the regulation of the LECs is not at all comparable to the task of streamlining the regulation of long distance carriers (which do not hold bottleneck monopolies in complementary services), such as AT&T.

As explained below, the FCC has also proposed excessively broad definitions of the relevant geographic and product markets. This creates a substantial risk that streamlined regulation will enable the LECs to exploit market power over sizable segments of the FCC's "markets."

Finally, the FCC has failed to propose sufficiently rigorous and adequately demanding criteria for assessing the competitiveness of individual access services. Although the Notice spells out some important preconditions for competition, it does not go far enough. An appropriate set of criteria would codify not only a more exhaustive set of competitive preconditions, but would also set forth standards by which to evaluate the roles of potential entry, resale competition, and market conduct. Any procedures adopted by the FCC should also recognize explicitly that evidence on competitive activity can be extremely misleading as long as regulators continue to force the LECs to diverge from cost-based pricing.

Many of the problems associated with the FCC's proposal could be resolved by using more appropriate definitions of the relevant product and geographic markets, by imposing more demanding and explicit criteria for evaluating competitive intensity, and by designing an alternative plan for progressively streamlining regulation that explicitly recognizes the interdependencies of complementary competitive and non-competitive services. One promising alternative plan would institute a system of comprehensive price caps, applicable to all service components and bundles of components. Another advantageous approach would make use of a structural remedy. Both are discussed below.

The remainder of this report is organized as follows. Section II discusses strategies for assessing the intensity of competition, including the definition of relevant markets, and the criteria for competitiveness. Section III considers strategies for streamlining regulation in response to emerging competition. Section IV concludes.

II. STRATEGIES FOR ASSESSING THE INTENSITY OF COMPETITION

As recognized in the Notice, reduced regulation of interstate access prices should not occur until the affected services are demonstrably competitive. Since it is entirely possible that one access service component might be competitive while another is not, or that an access service component might be competitive in one geographic area but not in another, it is essential to begin any analysis by identifying relevant markets. Once these markets have been identified, the FCC should apply clear, quantitative metrics of competition to determine whether regulatory relief is warranted.

A. Relevant markets

1. Product boundaries

In the Notice, the FCC proposes to define the relevant product markets by using existing definitions of current service categories within access baskets. In effect, this amounts to defining separate product markets for distinct service components, rather than for integrated services. This approach has several shortcomings.

First, the FCC's approach to product market definition fails to account for the potential effects of price discrimination in a reduced regulatory environment. In particular, this approach does not establish product markets that are based on customer characteristics (aside from geographic location) which might be used as a basis for price discrimination. It is conceivable, for example, that competition might develop in the provision of switching services to large customers, but not in the provision of these same services to small customers. Nevertheless, the competitive criteria spelled out in the Notice might enable a LEC to obtain complete regulatory relief for switching, even though the LECs would have an incentive to charge different margins over cost based on customer size.[1] This would permit them to meet competition for large customers while exploiting market power over smaller customers.

[1]LECs could accomplish this by offering quantity discounts that exceed cost differentials. For switching in particular, some evidence indicates that actual volume-related cost differentials, if any, are small.

The feasibility of this potential LEC strategy depends in large part upon the competitiveness and efficiency of resale.[2] Under certain restrictive circumstances, the potential for resale reduces the LECs' opportunities to charge different markups over cost for different customers. These circumstances include:

(i) the ability to transfer the subject service component between customers,

(ii) the absence of significant costs associated with resale transactions,

(iii) the absence of regulatory or contractual restrictions that in any way hinder resale,

(iv) the existence of market conditions and/or regulations that effectively preclude discrimination against resellers, either in price or quality, and

(v) the existence of a vigorously competitive resale market.

If the potential for resale, as measured by these criteria, is sufficient to thwart LEC efforts to price discriminate across identifiable classes of customers, it is not necessary to segment markets along this dimension. However, the efficiency and competitiveness of a resale market is a factual matter -- one that must be investigated in the context of each service component before defining the market for the purpose of evaluating overall competitiveness.

Second, the proposed approach to the definition of relevant product markets fails to recognize that individual service components are intermediate services rather than final services. Since the demand for intermediate services is derived from the demand for complete services, the existence of market power over an intermediate service also implies that a firm has effective market power over the final service. This observation has two important implications.

Implication #1: The proposed approach ignores the fact that market power over an intermediate service may be exercised at other levels of the vertical chain. Imagine that some firm monopolizes an essential intermediate service (the "bottleneck"). By virtue of this

[2]Resale affects the level of competition for one set of customers when competition is known to exist for another set of customers. As noted at pages 14-15, this precondition can only be satisfied if there is sufficient facilities-based rivalry; resale promotes facilities-based competition, but does not guarantee it.

monopoly, the firm acquires market power over all final services that require the bottleneck service. If regulation constrains the firm's ability to exercise its market power over the final service through the price of the bottleneck service, the firm can extract its monopoly profits at some other level of the vertical chain. The most obvious strategy would be to bundle the bottleneck service with other service components, charge markups on the bundle, and refuse to provide the bottleneck service on an unbundled basis. If regulators require unbundling, the firm could accomplish the same objective by striving to make the bottleneck less accessible to other vendors, and/or less compatible with the service offerings of other vendors. Thus, even if it is possible to decompose services into individual components, one must ultimately be concerned with the potential exercise of market power over final services. To analyze this potential, one must define relevant product markets for all final services that use any particular intermediate service.

Implication #2: The proposed approach fails to capture the possibility of customer substitution towards technologies that do not require directly comparable service components. Imagine that a final service, A, requires the use of an intermediate service that is supplied by a single vendor. The vendor is an apparent monopolist -- entry is blockaded, so that no other firm can produce the intermediate service. Although one might be tempted to conclude that the vendor of the intermediate service has market power, this conclusion is premature. It is possible that there is some other final service, B, that provides a close substitute for service A, and that makes no use of anything even remotely similar to the monopolized intermediate service.[3] In that case, the availability of service B may provide an effective check on the exercise of market power over service A. If so, it also provides an effective check on the exercise of market power over the intermediate service in question.

[3]In the context of access, there does not currently exist any such technology; nor is it likely that a high quality, cost-effective alternative to the current access technology will emerge in the near future. However, since the FCC is interested in designing a regulatory system to handle emerging competition and associated future developments, it should consider the potential competitive roles of technologies that are not yet available.

Elsewhere, Robert Willig and I have suggested a more effective strategy for defining relevant product markets that recognizes the special properties of intermediate services.[4] Our suggestions remain appropriate in this context as well. In particular, for any regulated, unbundled, separately priced access service component, one begins by identifying all distinguishable end-user toll services that make use of the subject access service. In the current context, the FCC should focus on interstate toll services. For each of these end-user services, one then delineates the relevant market containing the service and its close substitutes. This is a standard exercise; the usual criteria for market definition are, for example, described in the 1992 Federal Antitrust Agency Horizontal Merger Guidelines. The product markets for each final service may be segmented according to whether or not price discrimination across different classes of customers is sustainable. These product market definitions should then be used when analyzing the competitiveness of an access service component. In particular, a specific access service component should not be deemed competitive unless the LEC lacks market power (according to the criteria discussed below) in all identified end-user markets that make use of its access service component.[5]

2. Geographic boundaries

Ordinarily, the identification of appropriate geographic boundaries for a market depends primarily upon two considerations: (a) the extent to which customers are willing and able to substitute product offered at one location for product offered at another location, and (b) vendors' abilities to charge different prices at different geographic locations. To the extent vendors are compelled to charge the same price at different locations, it is usually appropriate

---

[4]B. Douglas Bernheim and Robert Willig, "Appropriate Preconditions for Removal of the InterLATA Restrictions on the RBOCs," February 14, 1994, p. 47, Attachment A to AT&T's February 15, 1994 Opposition to Ameritech's Motions for "Permanent" and "Temporary" Waivers from the Interexchange Restrictions of the Decree, United States v. Western Electric Co., Civ. Action No. 82-0192 (HHG) (D.D.C.) ("Bernheim and Willig I").

[5]Since market power over individual access service components confers market power over bundles of components, it is important (in an environment with emerging competition) to regulate the prices of access service components and bundles of components, rather than the prices of service components alone; see pages 21-22.

to regard those locations as residing within the same geographic market, even if customers cannot easily substitute product offered at one location for product offered at the other. This is because, in such a situation, a vendor's incentive to raise price depends on the average competitive response across all of the identified locations.

a. Willingness and ability to substitute

The first consideration argues in favor of defining geographic markets for access services very narrowly, because the demand for access is highly location-specific, and because many access services are not easily transported from one location to another. Residential and business customers usually demand access at specific locations. Thus, although it may be theoretically possible to substitute access services provided at other locations (either by the customer's moving permanently or traveling to and from another location, or by relaying traffic), in practice the degree of substitutability is quite low. Consider the following example. A business that is located on a city block not served by a CAP fiber loop cannot easily substitute the CAP's services for the LEC's services, even if the CAP serves customers in nearby areas. As a result, the LEC may retain significant market power over customers who are not physically adjacent to the CAP's fiber loop, even if those customers are served by the same LEC wire center as CAP-served customers, and even if the CAP competes vigorously within the area it serves.[6]

The implications of this first consideration also vary across different components of access services. For example, if transport is sufficiently inexpensive and available on an unbundled basis, it may be possible to provide substitutable switching services from a variety of geographic locations. However, it may be impossible to substitute the distribution portion of the loop from one location for another location. Thus, it is almost certainly inappropriate to

[6]It is, of course, conceivable that the CAP could extend its facilities into other portions of the city, and this threat may (or may not) limit the LEC's ability to exercise market power over customers who are not currently passed by the CAP's fiber loop. But this possibility does not broaden the geographic scope of the market; it merely implies that the CAP should be treated as a potential entrant into other localized geographic markets.

use identical geographic boundaries to define the markets for all access components, as proposed in the Notice.

b. Price Uniformity

In some circumstances, the second consideration (price uniformity) may argue in favor of defining geographic markets more broadly. Consider once again the hypothetical example described in the preceding paragraph. If the LEC cannot vary access prices across different sections of the city, then competition from a CAP within one section may limit the LEC's incentive to exercise market power within other sections. The efficacy of this competitive check depends upon the CAP's ability to divert business from the LEC within the section served by the CAP, as well as on the volume of traffic in the section of the city served by the CAP, relative to other sections.

Because LEC access prices are generally uniform within sizable geographic areas, it may be tempting to conclude, on the basis of this second consideration, that the geographic scope of the relevant market is typically substantial. Before rushing to this conclusion, however, it is important to examine the underlying causes of price uniformity. In some circumstances, price uniformity may result from technological constraints (e.g. if it is impractical or expensive to charge different prices to customers at different locations). However, in most cases, uniformity is a consequence of regulation. This observation is critically important in the current context, because the FCC's purpose in assessing the competitiveness of access markets is to determine whether relief from price regulation is warranted for such services.

The following example underscores this point. Suppose that an access service is provided subject to price regulation in two areas, A and B. Suppose also that price regulation requires the LEC to charge identical prices in both areas; moreover, in view of this fact, the FCC defines the relevant market to include both A and B. If vigorous competition develops within area A but not within area B, the FCC might nevertheless determine that the "market" satisfies the competitive criteria outlined in the Notice, and remove price regulation. Yet in

the absence of price regulation, the pricing uniformity that justified the aggregation of A and B into a single market may vanish, because the LEC could have the incentive and ability to exercise significant market power in area B, while lowering prices to meet competition in area A.

The preceding discussion shows that, for many access service components, broad definitions of relevant markets are probably inappropriate as matters of economic logic. However, as stated in the Notice, it may be necessary to strike a compromise between economic ideals and practicality. While this is understandable, it is important to realize that a compromise definition of the geographic market necessitates a more stringent standard to determine market competitiveness.

To understand this point, suppose that the FCC selects a particular geographic unit to define relevant markets. Imagine that there is some particular access service for which service at one location is a poor substitute for service at another location (e.g. local loops). There are two cases to consider: (i) prices remain uniform within the geographic unit even after regulatory relief is granted,[7] or (ii) prices do not remain uniform within the geographic unit once regulatory relief is granted.

(i) Price Uniformity Continues. In the first case, the FCC's definition of the geographic market might be justifiable as a matter of economic logic. However, the emergence of competition within some smaller geographic area would not necessarily remove the LEC's incentive and ability to exercise significant market power. Thus, proposals that would trigger regulatory relief throughout a relatively large geographic area (e.g. a state) based on a showing of actual competition in some segment of the geographic market (e.g. a metropolitan area), without also considering the degree of competition elsewhere in the market, are flawed as a matter of economic logic even in the presence of uniform prices. The

[7]This might occur for several reasons. As mentioned in the text, marketing or technological factors might make it expensive or impractical to charge non-uniform prices. Alternatively, regulators might continue to impose the requirement of uniformity even if relief from other regulatory restrictions is granted.

correct approach would be to measure the competitiveness of the market by assessing the competitive response across the entire geographic unit, and noting any significant differences among geographic areas.

It is useful to illustrate this point through an example. Suppose that the geographic unit that is used to define the market consists of two areas, A and B. Suppose that vigorous competition exists in area A, but not in area B. In particular, imagine that a 10% price increase would result in the loss of 30% of the LEC's business in market A, but none of its business in market B. If areas A and B account for identical volumes, then a uniform 10% price increase will result in the loss of 15% of the LEC's business. If area A accounts for 90% of volume, then the LEC would lose 27% of its business following the same price increase; in contrast, if area B accounts for 90% of volume, the LEC would lose only 3% of its business. Thus, the LEC's incentive to raise price reflects the average competitiveness over the region, and this in turn is determined by the relative sizes of competitive and non-competitive areas within the region.

(ii) Price Uniformity Ends. Now consider the second case, i.e. that prices need not remain uniform throughout the geographic unit after regulatory relief is granted. In this case, the FCC's inclusion of both A and B in the relevant geographic market would clearly be inappropriate as a matter of economic logic. If this definition were nevertheless adopted as a compromise between economic ideals and practicality, the standard of competitiveness should be significantly strengthened. This point can be illustrated by considering the same hypothetical example as in the preceding paragraph. As shown therein, when prices are uniform, the LEC would be deterred from raising price significantly as long as the volume generated in area B is not large relative to the volume generated in area A. However, if regulatory relief enabled the LEC to charge different prices in areas A and B, then the LEC would have both the incentive and the ability to exploit market power in area B, no matter how small area B volume is relative to the volume in area A. Consequently, in this second case, it would be inappropriate to grant regulatory relief based on measures of average competition

within the defined geographic "market." Rather, one must insist that competition is pervasive throughout the entire geographic unit before granting regulatory relief.

A reasonable standard of pervasiveness would include the following requirements.[8] Adequate competition (defined in the manner discussed in section B below) must exist for 90% of end-users within the geographic unit that is used to define the relevant market. In addition, the LEC must not be able to discriminate unreasonably in terms of price, quality, terms of interconnection or conditions of service, between those for whom competitive supply is available and those for whom it is not.

B. Measures of competitive intensity

The FCC's proposal does not go far enough in spelling out the criteria needed to assess the intensity of competition. These criteria should be expanded and refined to address the following six areas of concern.

1. Preconditions for competition

In compiling any list of preconditions for competition, it essential to avoid confusing *necessity* with *sufficiency*. Competition for any particular access service component might fail to develop for a variety of reasons, even if all the obvious preconditions are met. Thus, there should be no presumption that actual or potential competition necessarily disciplines the exercise of market power by a LEC, merely because a "check list" of competitive preconditions has been satisfied. In promulgating rules governing the eventual streamlined treatment of access services, the FCC should make this point as explicit as possible.

Before meaningful competition can develop, it is essential to remove the most obvious barriers to competition. Obvious preconditions for competition include the absence of franchise restrictions (which prevent potential competitors from considering market entry), access to conduits and the availability of rights of way (which give competitors the opportunity to build facilities to compete with the LECs), and true number portability and dialing parity

[8]The standard of pervasiveness described here is similar to one that Robert Willig and I proposed in a related context. See Bernheim and Willig I, p. 50.

(which allow competitors to offer services consumers might be willing to accept). The LECs must also make access services available on a fully unbundled basis, providing functionally equivalent interconnection and respecting uniform standards, so that emerging competitors can make appropriate partial use of more efficient facilities from other suppliers, including themselves. Moreover, the applicable regulatory structure must assure that non-competitive service components are available at cost-based, non-discriminatory prices that are consistent with the objective of achieving a competitive outcome. Finally, for reasons discussed below, competition is also more likely to develop when factors that hinder efficient resale and sharing are eliminated.

2. Standards for evaluating potential competition

In some circumstances, potential competition can serve as an effective check on the exercise of market power. Consequently, there are circumstances in which economists appropriately discount the importance of factors such as market share, because they reasonably anticipate that any significant price increase by existing suppliers would precipitate vigorous competition from new entrants. Access services are unusual, however, because (as described below) incumbent LECs are uniquely well-equipped to undermine the development of meaningful competition, even when obvious barriers to entry are removed. Therefore, it is important to apply a much more demanding standard for evaluating potential competition for access services than is used in other contexts.

The LECs' unique position is, in large part, an outgrowth of their roles as suppliers of complementary non-competitive regulated service components. Indeed, for certain essential components of access services (e.g. local residential loops), the LECs remain bottleneck monopolists. A LEC's bottleneck control over these essential service components provides it with many opportunities to handicap rivals in markets for potentially competitive, complementary services and service components by raising prices, reducing quality, providing discriminatory interconnection, or even more potent combinations of these three capabilities. Moreover, price regulation of the bottleneck components generally creates powerful economic

incentives for LECs to use anticompetitive strategies with the objective of leveraging their market power into potentially competitive components.

It is also important to realize that LECs' control over regulated bottleneck services is not the only relevant characteristic that distinguishes them from firms in other industries. Network externalities, combined with the need to make substantial sunk cost investments, may also insulate an incumbent LEC from the effects of potential competition. A network externality exists when the value of using a given service or facility increases with the number of customers who use the same service or facility. Since the purpose of a telecommunications system is to link users, powerful network externalities naturally arise in connection with access services. Thus, to the extent end users initially subscribe to the local network services of an incumbent LEC, these network externalities may help to protect the LEC's market power. If the LEC can raise the costs or reduce the quality of services provided by rivals who must interconnect with its network, the potential for small-scale or niche entry is an ineffective check on the LEC's market power. Although the LEC would not be able to handicap entrants offering complete, stand-alone, alternative networks, such an entry strategy involves enormous sunk costs and risks, especially if all of the preconditions for entry have not been effectively implemented.

For these reasons, a demanding standard for evaluating potential competition must be applied in this context. It is not enough to demonstrate the absence of "conventional" entry barriers. Rather, the facts must clearly justify a prediction that, if regulatory restrictions on access prices were removed, the LEC could not profitably implement a significant price increase for such services because it would lose business to a combination of existing competitors and new entrants.[9] "Clear justification" should require LECs to prove all of the following:

[9]The standard for significance of a price increase is, of necessity, somewhat arbitrary. However, it would be difficult to justify a threshold larger than 10%.

(i) it must be technically and economically feasible for new entrants to provide capacity consistent with the prediction;

(ii) competitively significant entry using the technology envisioned for potential entrants must have occurred in other jurisdictions under comparable economic and regulatory conditions;[10] and

(iii) conduct in the industry would be rivalrous, either because the conduct of existing competitors (including the LEC) is rivalrous, or (to the extent existing competitors are insignificant) because conduct is rivalrous in other jurisdictions under comparable economic and regulatory conditions.[11]

3. Facilities-based competition vs. resale competition

The competitive significance of resale activity is frequently misunderstood. True competition for a particular telecommunications service, including access, cannot be achieved without facilities-based competition. As long as a LEC remains the only actual or potential facilities-based provider of an essential service component, it controls the total quantity of that service component available to the market; since the LEC can induce either scarcity or abundance, it controls price. However, this does not imply that resale activity is irrelevant. On the contrary, resale plays two important roles.

First, resale can help to reduce or eliminate access price discrimination, i.e. price differentials that are unrelated to costs. As a result, an analysis of resale is an essential precursor to the definition of the relevant product market for access services. To put this issue somewhat differently, where there is efficient and competitive resale, certain market segments may inherit the competitive properties of other market segments.[12]

[10]Thus, if some alternative technology has never achieved meaningful commercial success in competition with a LEC in any jurisdiction, potential competition from that alternative technology should not be regarded as sufficient to limit the exercise of monopoly power by a LEC.

[11]See below for further comments on evidence of rivalry.

[12]This issue has arisen previously in the context of long distance services. Elsewhere, Robert Willig and I have explained that, while resale could not (by itself) render the market for wholesale long distance services competitive, a non-competitive outcome in the retail segment of the long distance market cannot persist if the

Second, the ability to resell capacity permits a new entrant to accumulate facilities gradually. As a result, resale activity can reduce the sunk costs of entry by eventual facilities-based competitors. It is essential to understand, however, that the existence of competitive resale does not guarantee that entry barriers for facilities-based competitors are insignificant. Resale encourages, but does not guarantee, facilities-based competition. Thus, if true facilities-based competition does not materialize, the competitive effects of resale may be confined to limitations on price discrimination. Before an access service component is found to be competitive, there should be direct evidence of facilities-based competition, rather than mere inferences of potential facilities-based competition based on resale activity.[13]

4. Market conduct

The mere existence of facilities-based competitors may be insufficient to guarantee a competitive outcome. It is certainly possible that rival firms may settle into a stable oligopoly. This outcome is particularly likely when the service in question is provided by only two firms, and when there is little or no possibility of further entry. Suppose, for example, that at some point in the future cable television companies begin to offer cost-effective substitutes for existing local loops. Although this development would signal the arrival of a facilities-based competitor, cable companies and LECs could settle into stable, implicitly collusive duopolies, with little real effect on the level of competition.[14] Thus, regulatory relief should not be

---

wholesale and resale segments are competitive (and if resale involves low transactions costs). Thus, retail long distance inherits the competitive properties of wholesale long distance. The same principles apply here. See B. Douglas Bernheim and Robert D. Willig, "An Analysis of the MFJ Line of Business Restrictions," pp. 133-135, Appendix A (Tab 1) to AT&T's December 7, 1994 Opposition to the Four RBOCs' Motion to Vacate the Decree, United States v. Western Electric Co., Civ. Action No. 82-0192 (HHG) (D.D.C.) ("Bernheim and Willig II").

[13]Robert Willig and I have applied this same standard in the context of long distance services (see Bernheim and Willig II, pp. 130-131). Although we noted that resale has contributed to the growth of facilities-based competition in the wholesale market segment, we based our evaluation of wholesale competition on direct evidence of facilities-based activity (market shares, pricing behavior, etc.), rather than on indirect evidence of the potential for facilities-based entry facilitated by resale.

[14]A similar issue arose in the context of the deliberations leading to the FCC's recent decision to classify AT&T as a non-dominant long distance carrier. As Robert Willig and I have demonstrated, there is no valid evidence of oligopolistic forbearance in the long distance market (Bernheim and Willig II, pp. 150-152, 158-164).

granted until a LEC demonstrates that there is clear evidence of significant rivalry between the LEC and other facilities-based competitive providers of the access service or component in question, and that there is minimal potential for implicit collusion between these parties once the subject service is deregulated. This showing should be required in each geographic market for which the LEC seeks reduced regulation.

5. Weighing the evidence on competitive activity

Because existing regulation has created departures from cost-based pricing, competition is more likely to develop for services that bear implicit "taxes." These services may appear to satisfy rigorous competitive criteria, based on the existence of facilities-based competitors with significant market shares, evidence of rivalry, and so forth, but competition may exist only because regulated prices substantially exceed a LEC's true economic costs. For example, price averaging requirements encourage CAPs to engage in "cream-skimming" by competing for high-volume business customers, for whom the LECs' regulated access rates are well above costs. The Notice explicitly acknowledges this general proposition (at para. 25):

> "Prices above costs also attract inefficient service providers. Prices establish important decision-making signals for both potential (and existing) suppliers of communications services as they do for users of these services. If the prices that LECs are permitted to charge are held above the competitive level by our regulations, inefficient entry may be encouraged."

If the FCC chose to streamline regulation under the current circumstances, the effect could be to institutionalize existing departures from cost-based pricing. Therefore, it would be inappropriate to interpret evidence of competition as indicative of market discipline until such time as regulatory "taxes" and "subsidies" no longer distort economic incentives.

6. Establishing a presumption of competitiveness

A thorough examination of competitive conditions in each relevant access market (defined by product characteristics and geography) would consume a great deal of time and

resources. To ease the associated administrative burden, the FCC may wish to establish a rebuttable presumption of competition based on a simple set of clear, quantitative criteria.

Any such presumption should be treated as a supplement to, rather than a substitute for, thorough economic analysis. It is difficult to imagine a useful set of criteria that would guarantee vigorous competition; likewise, the failure to satisfy a simple test should not be taken as definitive proof that competition is absent. If a simple test is established, it should only be used to create a challengeable presumption in favor of (or, if not satisfied, against) competition.

As long as simple quantitative criteria are used in the manner described above, the FCC will retain the discretion to streamline regulation even when market conditions fall outside of the criteria -- provided thorough economic analysis of competitive conditions overcomes the associated presumption that competition is inadequate. Thus, to avoid the premature streamlining of many access markets, it is important to err on the side of caution when choosing the criteria, as has been the FCC's traditional approach.

AT&T has previously proposed a set of measurement criteria or "metrics" which could be used to assess the reasonableness of additional pricing flexibility for the LECs. Chief among these metrics is the requirement that at least 30 percent of subscribers in an area are in fact using alternative providers for local telephone service. AT&T's proposed metrics also provide that such service must be comparable in quality, coverage, price and capability to that of the incumbent LEC, and that it must be available from two or more alternative providers who are not dependent on the LEC for the facilities used to provide service. AT&T has suggested that at least 75 percent of subscribers in a LEC's exchange area should have access to such alternative providers.

AT&T's proposed metrics have the virtue of simplicity. However, due to their simplicity, they do not guarantee the existence of vigorous competition. It is also conceivable (but doubtful in the context of access services) that an adequate level of competition could exist even though one or more of these metrics is violated. Thus, it is appropriate to view

these metrics as a candidate for establishing a challengeable presumption for or against competition, as described above.

Viewed in this light, it is my opinion that AT&T's metrics are, if anything, insufficiently demanding. Even if these conditions were satisfied, there would be a substantial risk that a leading firm, with up to 70 percent of the market, could, either independently or in cooperation with its competitors, exercise significant market power (particularly over the potentially sizable fraction of customers who have no access to alternative providers). Consequently, the FCC should not establish a set of metrics that is any less demanding than the one proposed by AT&T.

III. STRATEGIES FOR STREAMLINING REGULATION IN RESPONSE TO EMERGING COMPETITION

In the Notice, the FCC has proposed a specific strategy for streamlining the regulation of access services in response to the anticipated emergence of competition. Unfortunately, the proposal is flawed as a matter of economic logic, and therefore is unlikely to promote the achievement of competitive outcomes. This section begins with a brief summary of the features of the FCC proposal that are salient for the purposes of my analysis. It then describes the economic incentives that proposal would generate, and shows how these incentives are contrary to the FCC's stated objectives. The section closes with a discussion of some alternative regulatory approaches.

A. Economic incentives arising from the FCC's proposal

For the purpose of this discussion, there are two salient features of the regulatory mechanism proposed by the FCC. First, as with the existing price cap system, the objects of regulation would be the prices of the individual components of access services, rather than the prices of complete services or other service bundles. Second, under this proposal, the price of any particular access service component would be subject to reduced regulation once that

service component is found to be competitive, regardless of the competitive status of complementary service components.

These two features reflect an implicit belief that, during the transition to a fully competitive local exchange environment, it would be appropriate to treat individual service components as if they were separate and unrelated services. This is incorrect as a matter of economic logic. The interrelations between complementary service components would create incentives for LEC behavior that are counter to the FCC's pro-competitive objectives.

Under the FCC's proposal, the regulation of some service components could be streamlined even though other complementary service components remain non-competitive. In the extreme, a LEC could be free to set any price for a streamlined service component, even though it continues to hold a bottleneck monopoly over an essential complementary service (such as local loops). It is well-established that regulatory schemes of this sort create strong incentives for anticompetitive behavior. Imagine that a firm possesses significant market power (perhaps a monopoly) in some service, and that regulation constrains its ability to extract monopoly rents through the price of that service. If this firm is permitted to integrate vertically into the provision of a competitively-provided complementary service, and if the price of that service is not regulated appropriately, it will have strong incentives to leverage its market power in the regulated market into the competitive market. Specifically, by limiting the usefulness of the non-competitive service to rival providers of the competitive service (e.g. through discriminatory pricing and/or interconnection, quality degradation, and the like), the provider of the non-competitive service can create the potential to extract monopoly rents through the price of the otherwise competitive service. In addition, if regulation links prices (implicitly or explicitly) to costs, the firm will also have an incentive to shift costs from the competitively provided service to the regulated service.[15]

[15]Since the FCC's proposal attempts to sever many of the remaining links between the costs and regulated prices of access services, the second concern (cost-shifting) may be somewhat attenuated. However, it is difficult to sever all of these links completely, if for no other reason than the fact that pressure builds to revise price caps when experience diverges significantly from expectations. In addition, certain components of access are also used to produce local services, which are regulated by the states. Many states continue to use rate-of-return regulation

To illustrate the potential for abuse of market power, imagine (for expositional simplicity) that there were only three access services components (loops, transport, and switching). Suppose that switching became competitive, and that the FCC streamlined regulation of this component as proposed in the Notice. A LEC could then exploit its market power in a variety of ways. The most direct approach would be to degrade the quality of complementary loop and transport services provided to those not making use of the LEC's switching service (e.g. through discriminatory interconnection). This would enable to LEC to raise the price of its switching service above competitive levels without diverting customers to rival suppliers.

Thus, the proposed regulatory response to the putative emergence of competition in individual access service components magnifies incentives for abuse -- both leveraging of market power, and cost shifting. It is important to emphasize that these issues did not arise in the context of reduced regulation of long distance service prices, precisely because AT&T did not have significant market power (let alone bottleneck control) over any essential service component that was complementary to long distance. Therefore, it is essential to avoid modeling the process for streamlining the regulation of the LECs on the process that was used for streamlining the regulation of AT&T. A much different strategy is required to account for the LEC's continuing bottleneck control of regulated facilities needed to provide access services.

B. Alternative regulatory strategies

There are a number of alternative approaches that would likely generate significantly better economic incentives than the FCC's proposal. Each of these alternatives should be considered carefully within the context of the full nexus of relevant issues before the FCC commits itself to any particular approach. In this section, I elaborate on the two alternatives that strike me as most promising.

---

or hybrid systems, under which significant incentives for cost-shifting persist. See Bernheim and Willig II, pp. 82-86.

1. Comprehensive price caps

As discussed above, the central incentive problems associated with the FCC's proposal arise from the failure to recognize and respect the interrelatedness of complementary access service components. By defining the objects of price cap regulation differently, incentives for competitive abuses could be significantly attenuated.

One possibility is to adopt a comprehensive price cap system in which every service component and every bundle of service components is separately subject to price cap regulation. The regulation of a particular service could be streamlined (and the service removed from its associated price cap basket) once all of its components are found to be competitive.[16]

To illustrate, imagine again that there were only three access services components: loops, transport, and switching. Initially, the FCC would regulate the prices of seven LEC service bundles: (i) loops, (ii) transport, (iii) switching, (iv) loops bundled with transport, (v) loops bundled with switching, (vi) transport bundled with switching, and (vii) loops bundled with transport and switching. If switching became competitive first, the FCC would streamline switching, but it would continue to price regulate all of the other LEC bundles, because they contain at least one non-competitive element. This would leave six of the original seven objects still subject to regulation. If transport subsequently became competitive as well, the FCC would then streamline transport, and transport bundled with switching. This would leave four of the original seven objects still subject to regulation: loops, and all bundles containing loops.

The primary advantage of this strategy is that the LEC's incentives to leverage market power are substantially reduced. To illustrate, consider again the hypothetical in which there are three access service components (loops, transport, and switching), and in which switching

[16]This regulatory framework is also applicable to the LECs' interexchange services. Price caps would be applicable to any bundle containing a LEC's interexchange service unless all components of the bundle, including access components, were competitive.

becomes competitive. The LEC's incentive to leverage market power from loops or transport into switching is severely limited, since any bundle containing switching (aside from switching alone) continues to be subject to price regulation. Even if the LEC degrades the quality of interconnection with loops and transport for those who use competitors' switching services, it cannot profitably raise the price of its own switching services, since this would divert customers to its own regulated complete access service (the bundle consisting of loop, transport, and switching services).[17]

Some incentive to leverage market power could remain if, for example, regulated prices provided the LEC with a greater profit margin on the complete bundle consisting of loops, transport, and switching, than on the partial bundle consisting of loops and transport alone. In that case, the LEC would have an interest in diverting demand (e.g. through discriminatory interconnection) from the partial bundle to the complete bundle. The remaining incentive to leverage market power would disappear, however, if the LEC earned the same profit margin on each regulated bundle. In principle, this condition (equal profit margins) can be achieved through an imputation rule. Even if it is only practical to impose the imputation requirement as an approximation, the combination of comprehensive price caps and imputation would provide the LECs' with significantly less incentive to leverage market power than would exist under the FCC's proposal.[18]

---

[17]Thus, the availability of the regulated unitary access service provides the ultimate check on the LEC's ability to raise the price of its unbundled switching service. For this reason, it is important to continue to require the LECs to offer unitary access services, even after the components of these unitary services are made available on an unbundled basis.

[18]It is also possible to reduce or eliminate the incentives for leveraging of market power by applying price caps only to complete access services (rather than to all bundles, or to components in isolation), while extending the scope of regulation to include all vendors, and not just the LECs. Under this alternative, it would only be appropriate to streamline the regulation of an access service after every component was found to be competitive. However, this strategy is contrary to the FCC's stated objective of reducing the scope of regulation as rapidly as competition permits.

2. A structural alternative

Designing an appropriate transitional regulatory system necessitates difficult compromises between different objectives. The complexity of the regulatory problem is a direct outgrowth of the very real possibility that some access service components may become competitive long before others, leaving the LEC as a vertically integrated producer of competitive services and complementary non-competitive services. Accordingly, one method of promoting a smooth transition to a competitive environment is to require divestiture of a service component once that component becomes competitive. While seemingly drastic, a divestiture requirement might have few adverse consequences. For example, if a service component is in fact truly competitive, then vendors other than the LEC must be capable of offering close substitutes on a cost-effective basis; in that case, production of the component by the LEC itself presumably offers no special advantages.

This structural alternative merits consideration because it simplifies the residual problem of designing an appropriate regulatory system for the non-competitive components that remain within the purview of the LEC's activities. In addition, this approach reduces the likelihood that a LEC would press prematurely for regulatory relief.

IV. CONCLUSIONS

The FCC's proposal for streamlined regulation of LEC access services is flawed as a matter of economic logic, and therefore unlikely to further the pro-competitive objectives of the FCC. On the contrary, it provides the LECs with ample opportunities to exercise, extend, and further entrench existing monopoly power. Many of the problems associated with the FCC's proposal could be resolved by using more appropriate definitions of the relevant product and geographic markets, by imposing more demanding and explicit criteria for evaluating competitive intensity, and by designing an alternative plan for progressively streamlining regulation that explicitly recognizes the interdependencies of complementary competitive and non-competitive services.